

REMARKS

Claims 1–17 and 19–23 were previously pending in this Application. Claims 19–23 have been cancelled herein without prejudice or disclaimer. Claim 18 remains cancelled without prejudice or disclaimer. Claim 1 has been amended herein to include the features of canceled claim 22. Applicants submit that no new matter has been added. Applicants respectfully request reconsideration of the Application in view of the foregoing amendments and the following remarks.

Claim Rejections – 35 U.S.C. § 103

Claims 1–17 and 19–23 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Sugiura et al., U.S. Patent No. 6,378,415, in combination with either Goda et al., U.S. Patent No. 6,506,868, or Goda et al., U.S. Patent No. 6,525,160. Claims 19–23 have been cancelled herein, thereby rendering the Examiner’s rejection of these claims moot. Applicants respectfully submit that the remaining pending claims are patentably distinct from the cited references, taken either alone or in combination.

Sugiura et al. is directed to using a coating layer containing metallic particles to improve the sliding durability of the coating layer formed on the sliding surfaces of the swash plate and shoes of a compressor, between the shoe and a piston, between a drive shaft and a swash plate and between the outer circumferential surface of the piston and the inner circumferential surface of the cylinder bore of the cylinder block. See Sugiura et al., col. 2, ll. 16–21; col. 8, ll. 27–38. Sugiura et al. states, specifically, that the incorporation of metallic particles into the coating layer to increase “the durability of the coating layer is a new technological finding.” See Sugiura et al., col. 2, ll. 39–42. In short, the invention of Sugiura et al. seeks to increase the durability of a coating layer by using metallic particles to support a majority of the load created by the compressor, thereby reducing the amount of load applied to the resin and allowing the coating layer to achieve a high slide durability. See Sugiura et al., col. 3, ll. 39–42. Clearly, Sugiura et al. does not disclose the improvement of seizure resistance, abrasion resistance and adhesion characteristics as taught by Applicants. Moreover, while the

February 8, 2007 Final Office Action states that Sugiura et al. discloses examples of resin materials suitable for accomplishing the objectives of the Sugiura et al. invention, the reference provides no disclosure of a silane-modified resin for use in a coating layer. See Office Action, 2/8/07, p. 2.

In addition, Applicants have amended independent claim 1 to specify that the coating layer which is made of silane-modified resin is formed on the sliding surface of a rotary valve (23), including an outer circumferential surface (23b) and a rear end surface (23c). As a result, when the inner circumferential surface (20a) of the valve chamber (20) containing the rotary valve (23) is formed with high precision, gas leakage through the clearance between the outer circumferential surface (23b) of the rotary valve (23), i.e., where the coating layer is formed, and the inner circumferential surface (20a) of the valve chamber is prevented. Accordingly, Applicants' invention provides a compressor with quieter operation, greatly-improved compressor efficiency and a lower manufacturing cost. Indeed, Sugiura et al. does not teach the above-described system as disclosed by Applicants.

The Goda et al. references disclose silane-modified resins, particularly for use in the electric and electronic material fields where high-performance epoxy resin compositions with sufficient heat-resistance are required. The February 8, 2007 Office Action indicates that a skilled artisan, with knowledge of Sugiura et al. in combination with the Goda et al. references would have found it obvious to take the silane-modified resin compositions in Goda et al. and use them as the resin material in Sugiura et al. See Office Action, 2/8/07, p. 3. While the selection of a known material based on its suitability for its intended use may support a prima facie case of obviousness, this is simply not the case here. See MPEP § 2144.07. "Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion or motivation to do so . . . [which] must be found either explicitly or implicitly in the reference themselves. See MPEP § 2143.01. Applicants submit that just because the Goda et al. references state that the disclosed silane-modified resins "can be used for various applications without any restriction" does not mean that

the references necessarily teach, suggest or motivate a skilled artisan to apply those resins to any invention. Here, nothing disclosed in Goda et al. would suggest to a skilled artisan that silane-modified resins exhibit improved seizure resistance, abrasion resistance and adhesion characteristics in large compression loading.

Furthermore, and as stated above, Applicants have amended independent claim 1 to specify that the sliding component is a rotary valve (23), which opens and closes the gas passage upon synchronously rotating with a drive shaft (9). Neither of the Goda et al. references disclose use of a silane-modified resin with a rotary valve as claimed by Applicants. Thus, in combination, the Sugiura et al. and the Goda et al. references fail to teach or suggest all the claim limitations of amended independent claim 1, as required for establishing a prima facie case of obviousness. See MPEP §§ 2143, 2143.03. In other words, the Goda et al. references, do not remedy the deficiencies of Sugiura et al.

Applicants disclose a compressor having improved seizure resistance, abrasion resistance and adhesion characteristics by coating the sliding components of the compressor with silane-modified resin. In particular, Applicants form a coating layer of silane-modified resin on the sliding surface of a rotary valve (23) to assist in preventing leakage of gas between the rotary valve (23) and the valve chamber (20). Advantageously, the silane-modified resin can be used alone, with a solid lubricant, hard particles or surface agents to achieve increased sliding performance during large compression loading. None of the cited references, taken alone or in combination, teach or suggest such a system. Accordingly, Applicants submit that a prima facie case of obviousness has not been established and combination of the cited references is improper.

For at least these reasons, Applicants submit that amended independent claim 1 is patentably distinct from the cited references, taken either alone or in combination. Further, Applicants submit that dependent claims 2–14 and 16–17, which directly or indirectly depend

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from amended independent claim 1 are also patentably distinct from the cited references for at least similar reasons. Therefore, Applicants request withdrawal of these grounds of rejection.

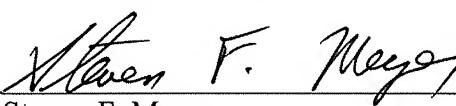
CONCLUSION

Based on the foregoing amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of claims and allowance of this application.

Respectfully submitted,
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